clear density and amount of keratin. Both the 6/11 and 16/18 groups appear white after vinegar is applied. Occasionally it is helpful to also stain the suspect tissue with Lugol's iodine solution. Iodine will stain areas containing glycogen brown and fail to stain areas devoid of glycogen. The latter are frequently condylomatous lesions.

Often more than one sexually transmitted disease is found in the same patient; therefore, a lesion that is classic for a 6/11 HPV may commonly be found associated with the presence of lesions caused by the 16/18 HPV.

Colposcopy is indicated in the evaluation of all patients with class II findings on Papanicolaou smears that have persisted three or more months and all patients with class III or higher findings. A pathologist's notation of the presence of "koilocytes," a cell classic for the presence of HPV, is also an indication for a patient to be examined colposcopically, as is the presence of a condyloma. As with all sexually transmitted diseases, sexual partners should be advised to seek examination and treatment if one is found to have condylomata. Colposcopy is an easily learned technique that can be incorporated into primary care practice.

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REFERENCES

Barrasso R, De Brux J, Croissant O, et al: High prevalence of papillomavirus-associated penile intraepithelial neoplasia in sexual partners of women with cervical intraepithelial neoplasia. N Engl J Med 1987; 317:916-923

Berget A, Lenstrup C: Cervical intraepithelial neoplasia—Examination, treatment and follow-up. Obstet Gynecol Surv 1985; 40:545-552

Rodney WM, Felmar E, Morrison J, et al: Colposcopy and cervical cryotherapy—Feasible additions to the primary care physician's office practice. Postgrad Med 1987; 81:79-82, 85-86

Preventing and Treating Acute Mountain Sickness

ACUTE MOUNTAIN SICKNESS (AMS) is a syndrome characterized by headache, nausea, vomiting, insomnia, and lassitude. The syndrome, part of a continuum including high-altitude pulmonary edema and high-altitude cerebral edema, generally occurs three to eight hours after lowlanders ascend to altitudes greater than 3,000 m (9,800 ft). Because of increased recreational time and improved transportation systems, it is now common for physicians in mountainous areas to see the consequences of altitude illness. The incidence varies with the rate of ascent and the altitude attained. More than 60% of climbers on Mount Rainier (Washington) suffer at least mild AMS. While only 12% of Colorado skiers experience symptoms, AMS causes an estimated annual loss of revenue by the tourist industry of the mountain states of $50 to $75 million.

To reduce the incidence and severity of AMS, a graded, staged ascent and a high-carbohydrate diet are recommended. Chemoprophylaxis can also be recommended in certain circumstances where a graded ascent is not possible. The prophylactic use of acetazolamide is usually effective. Possible mechanisms include increased ventilation, metabolic acidosis, improved sleep, the inhibition of cerebrospinal fluid production, diuresis, or a combination of the above. The drug therapy is usually started 12 to 24 hours before ascent and continued for 24 to 48 hours at altitude. Adverse effects include peripheral paresthesias, polyuria, dysgeusia for carbonated beverages, myopia, nausea, and vomiting. Because some of the side effects resemble AMS, some physicians advise trials of the drug at a low elevation before the patient goes to altitude.

Recent studies suggest that the use of dexamethasone is more effective than that of acetazolamide as prophylaxis for AMS symptoms. The mechanism is unknown but probably involves reducing cerebral edema, although antiemetic effects and steroid euphoriant effects may also play a role. Dexamethasone given in a dosage of 12 to 16 mg daily (lower doses are inadequate) starting two to four hours before ascent is recommended. Stopping the therapy before acclimatization takes place may result in rebound altitude illness. The use of dexamethasone for AMS prophylaxis is not without its risks and should be limited to special circumstances because of inadequate experience, the severity of possible side effects including acute psychosis and drug withdrawal, and the benign nature of AMS in most cases. Current recommendations generally limit the use of dexamethasone for AMS prophylaxis to persons making forced, rapid ascents to high altitude for a short stay and with a guaranteed retreat route, thereby avoiding the risk of drug withdrawal.

The treatment of choice for all forms of high-altitude illness is descent. Mild forms of the illness, however, may not mandate descent, or descent may be impractical, and the clinician may wish to try other methods. Mild AMS can be treated by waiting for further acclimatization at the same altitude. Administering analgesics, prochlorperazine, or acetazolamide may provide symptomatic relief. If the symptoms progress, descent is mandatory. For moderate to severe AMS (early cerebral edema), descent should be attempted if possible. The administration of dexamethasone, 4 mg every six hours, is probably indicated. A prompt response (four to eight hours) is expected. This drug therapy must be continued for 48 hours, then tapered or continued until the victim has descended or acclimatized.

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REFERENCES

Ellsworth AJ, Larson EB, Strickland D: A randomized trial of dexamethasone and acetazolamide for acute mountain sickness prophylaxis. Am J Med 1987; 83:1024-1030

Ferrazzini G, Maggiorini M, Kriemier S, et al: Successful treatment of acute mountain sickness with dexamethasone. Br Med J (Clin Res) 1987; 294:1380-1382

Hackett PH, Roach RC: Medical therapy of altitude illness. Ann Emerg Med 1987; 16:980-986

Larson EB, Roach RC, Schoene RB, et al: Acute mountain sickness and acetazolamide: Clinical efficacy and effect on ventilation. JAMA 1982; 248:328-332

Evaluating Palpable Breast Lumps With Negative Mammography

BREAST CANCER is an increasingly important problem in health care. Much is written about screening and diagnostic measures. It is important to realize that when a breast lump is present, a normal mammogram does not preclude the need for biopsy to establish the diagnosis.

It has been well established that mammography is important in screening for breast cancer. Authorities generally agree that mammography is more accurate than palpation at finding minimal breast lesions. This was borne out in studies at breast cancer detection centers in Milwaukee and Cincinnati. In its present state of development, however, mammography will yield a certain percentage of falsely normal results (false-negatives). There are several reasons for this: subtle or absent signs in some lesions (in situ and intraductal lesions may show no obvious radiographic patterns), difficult-to-